**Grade 8 Solutions Lab**

You will work in groups of three. Using lab equipment and materials, you will collect data that supports the concept of certain factors that affect the solvation process. The factors are temperature (heat it up), agitation (stir it up) and surface area (beat it up).

You need: 3 100-mL beakers (one for hot water, one for cold water and one for room temperature water), stirring rods and a timer

You will be given different solutes and you will do the following:

**Task 1: Temperature effects**

Label your beakers HOT, COLD, ROOM TEMP. Add 50mL of hot water (from the hot pot) to the HOT beaker. Add 50mL of cold water (from the labeled beaker) to the COLD beaker. Add 50mL of RT water (from the sink) to the RT beaker.

Measure out 5 grams of your given solute for each beaker. Do one beaker at a time. Time how long it takes for the solute to dissolve in the water. DO NOT STIR OR SWIRL THE BEAKER!!! Record the time for each beaker.

Rinse out your beakers carefully and get them ready for Task 2.

**Task 2: Surface area effects**

You will be given a chunk of salt. Record the mass of the chunk. Then measure out a loose amount of the same salt and make sure that the mass is the same as the mass of the chunk. Use **room temperature water.** Pour 50mL of room temperature water into two separate beakers. For beaker #1, drop the chunk into the water and time how long it takes for the chunk to dissolve. For beaker #2, add the loose salt and time how long it takes for the solute to dissolve. DO NOT STIR OR SWIRL THE BEAKER!!! Record the time for each beaker.

Rinse out your beakers carefully and get them ready for Task 3.

**Task 3: Agitation effects**

Pour 50mL of **room temperature water** into two separate beakers. For beaker #1, measure out 5 grams of copper II chloride (the blue-green salt) and add it to beaker 1. Time how long it takes for the salt to dissolve. Repeat this process with beaker 2, but use the stirring rod. Time how long it takes for the salt to dissolve. Record the time for each beaker.